



BHP Billiton Limited  
171 Collins Street  
Melbourne Victoria 3000 Australia  
GPO BOX 86  
Melbourne Victoria 3001 Australia  
Tel +61 1300 55 47 57 Fax +61 3 9609 3015  
bhpbilliton.com

BHP Billiton Plc  
Neathouse Place  
London SW1V 1LH UK  
Tel +44 20 7802 4000  
Fax +44 20 7802 4111  
bhpbilliton.com

10 October 2016

To: Australian Securities Exchange<sup>1</sup>  
New York Stock Exchange

**CLIMATE CHANGE PORTFOLIO ANALYSIS – VIEWS AFTER PARIS - PRESENTATION**

Attached are the presentation slides for a presentation on the Group's publication 'Climate Change: Portfolio Analysis Views after Paris' that will be given shortly.

Further information on BHP Billiton can be found at [www.bhpbilliton.com](http://www.bhpbilliton.com).

A handwritten signature in black ink, appearing to read "R. Agnew", with a long horizontal stroke extending to the right.

**Rachel Agnew**  
Company Secretary

**BHP Billiton Limited ABN 49 004 028 077**  
Registered in Australia  
Registered Office: Level 18, 171 Collins Street Melbourne Victoria 3000

**BHP Billiton Plc Registration number 3196209**  
Registered in England and Wales  
Registered Office: Neathouse Place, London SW1V 1LH United Kingdom

**The BHP Billiton Group is headquartered in Australia**

---

<sup>1</sup> This release was made outside the hours of operation of the ASX market announcements office.



# Climate Change: Portfolio Analysis Views after Paris

Dr Fiona Wild

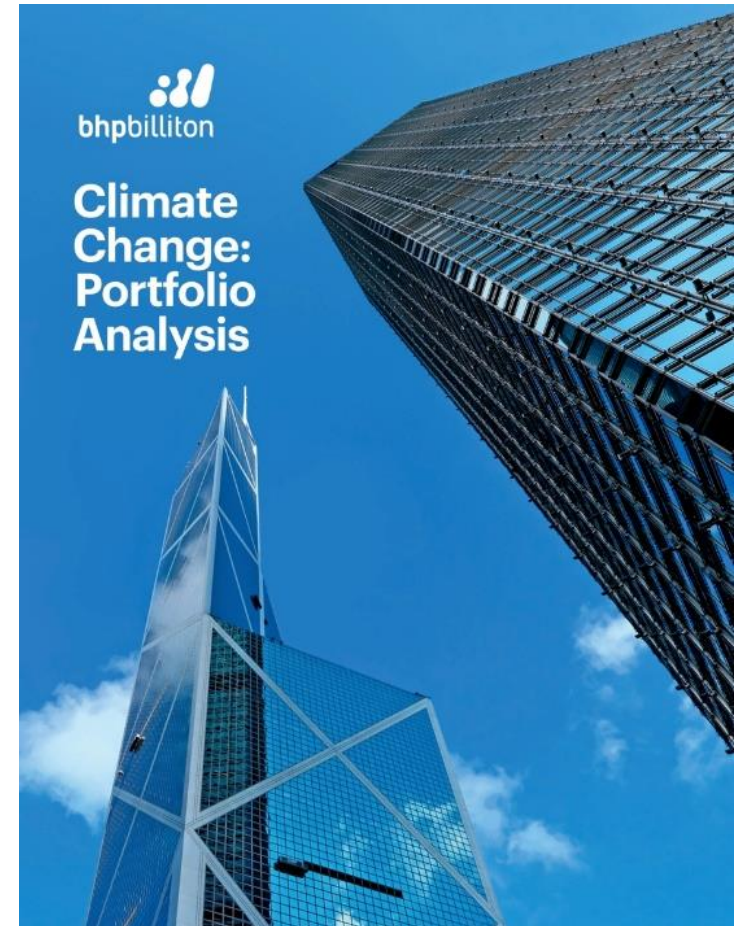
Vice President, Sustainability & Climate Change



# Portfolio analysis is an ongoing process

## In the past 12 months we have seen:

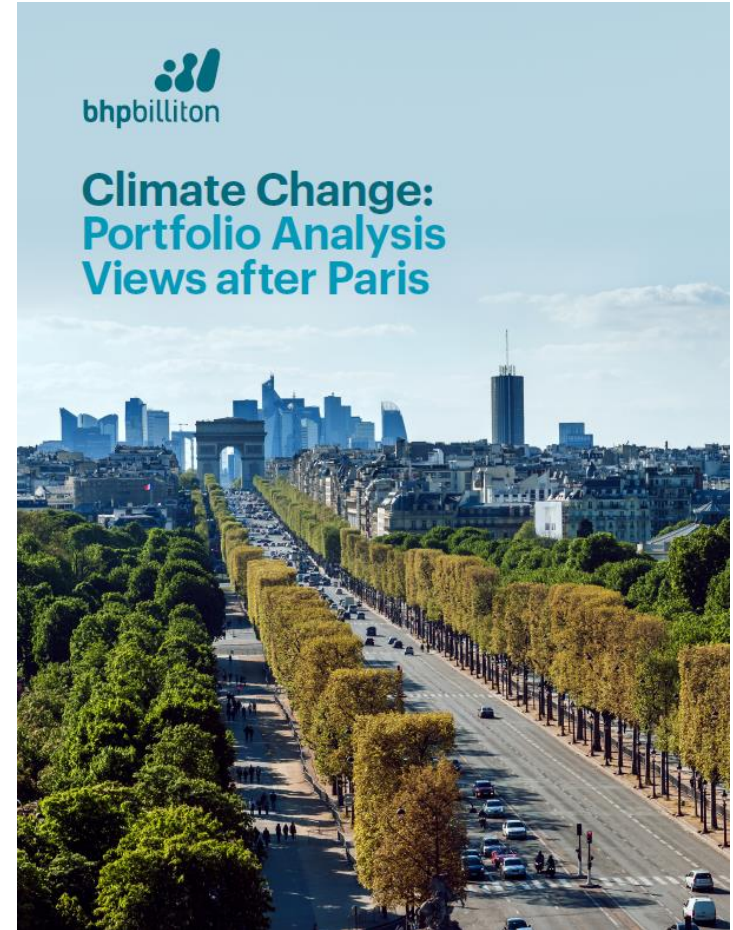
- The strong outcome from COP21 in Paris.
- The launch of the Financial Stability Board's Task Force on Climate-related Financial Disclosures.
- Acceleration of the global energy transition.
- Continued and growing interest in climate risk.



# Views after Paris

## Views after Paris provides:

- A tangible demonstration of how we monitor the external environment.
- An explanation of how we identify and track signals which provide timely insights into potential impacts on our portfolio.
- An insight into how these inform our strategic decision-making at the highest levels of our company.
- An update on our actions, as part of our integrated approach to climate risk management, over the past 12 months.





# Paris Agreement: key commitments

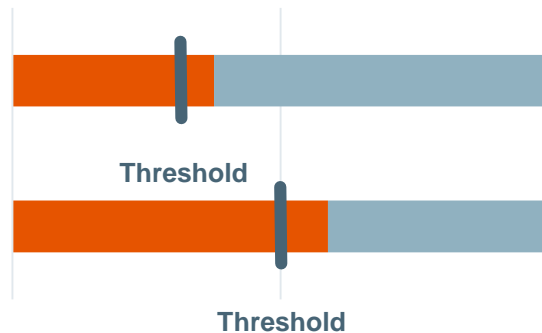
**The Paris Agreement reaffirms the commitment to limit the increase in global average temperature to well below 2°C and to pursue efforts to keep the temperature increase to 1.5°C.**

We welcome the ratification of the Agreement given that last week, the threshold for entry into force was achieved.

## The Paris Agreement<sup>1</sup>

**74 Parties have ratified**  
of 197 Parties to the  
Convention.

**58.82 per cent achieved**  
of global GHG emissions.



1. Source: United Nations. Data as at 7 October, 2016

## Key commitments include:

- Achieving net zero emissions in the second half of the century.
- A global stocktake of progress in 2023 with individual countries to reassess NDCs in 2025.
- In-principle support for market mechanisms to meet targets.
- Provision of financial support to developing countries for both adaptation and mitigation at a minimum of US\$100 billion per year from 2020 to 2025 with two-yearly reviews of progress.
- Provision to develop a technology framework and strengthen technology transfer.
- Support for reducing emissions from deforestation and forest degradation (REDD+).

The Agreement will come into force following formal ratification by at least 55 countries, covering at least 55 per cent of global emissions.

# Energy transition



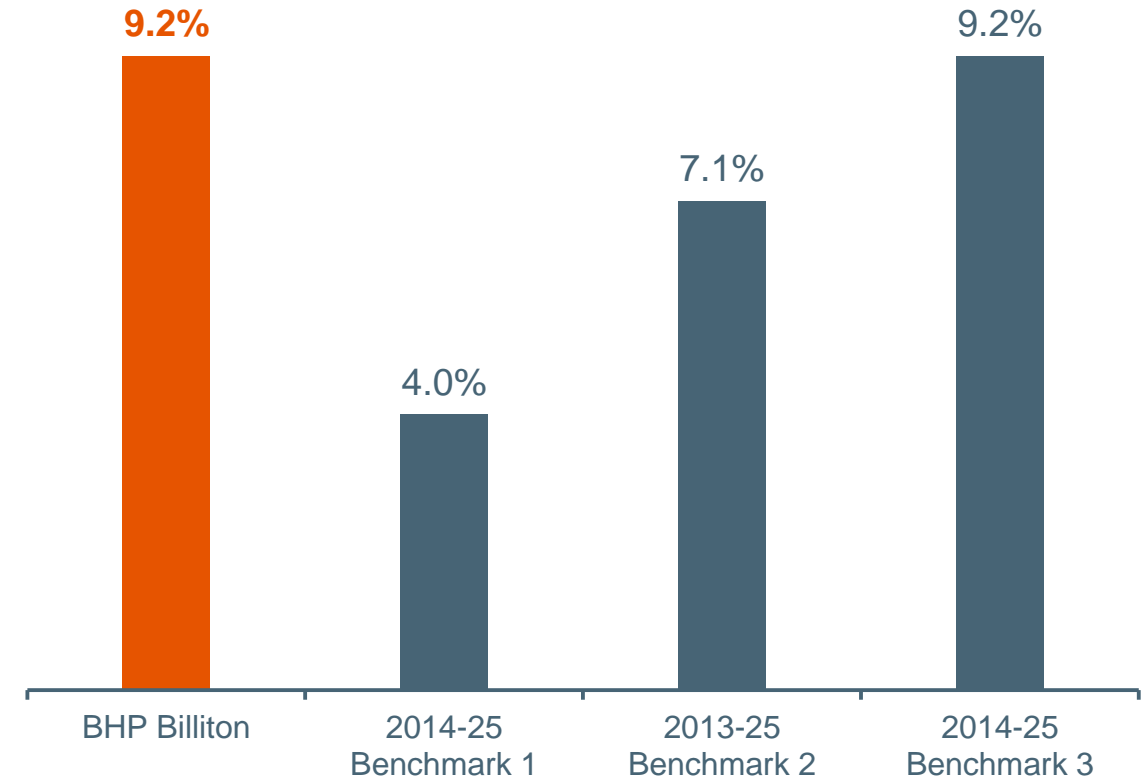
# Renewables: the Central case view

## Renewables

- Clean energy investments hit a record of US\$329 billion in 2015.
- The US approved the extension of tax credits for wind and solar.
- The price of new-build (unsubsidised) renewable power generating capacity hit record lows.
- The International Energy Agency increased its forecast for wind and solar PV contribution to global power generation in 2040 by +12 per cent.

## Estimated annual global growth rate of non-hydro renewable power<sup>1</sup>

(Central case view)



1. Benchmarks are either large multinational resources companies or industry analysts.

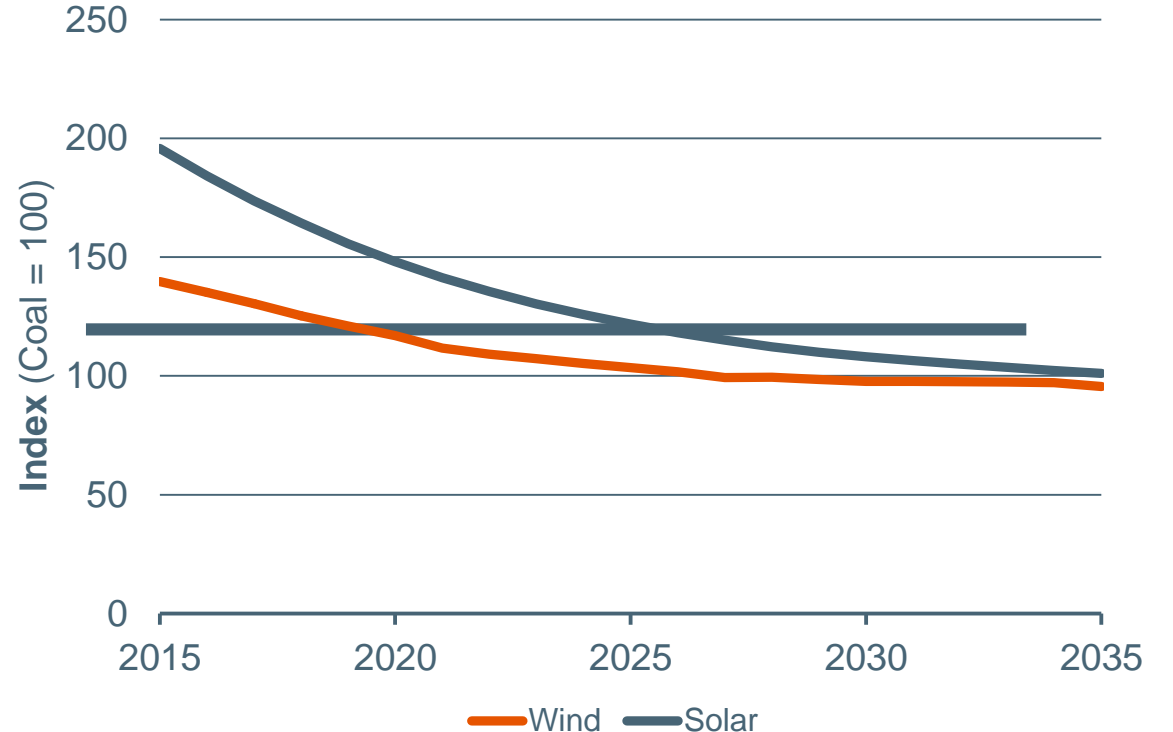
# Renewables in China

## Renewables

- In 2015, China added a record amount of non-hydro renewable generating capacity (~US\$100 billion). This compares to ~US\$25 billion in thermal coal and gas.
- As the Chinese economy has been restructuring, power demand plateaued, along with thermal coal use and emissions.

## Estimated average breakeven costs for new power plant in China<sup>1</sup>

(Central case view)



Source: BHP Billiton analysis.

1. Costs are presented as indexed long-run average costs (LRAC). Excludes grid integration costs. Excludes direct subsidies.



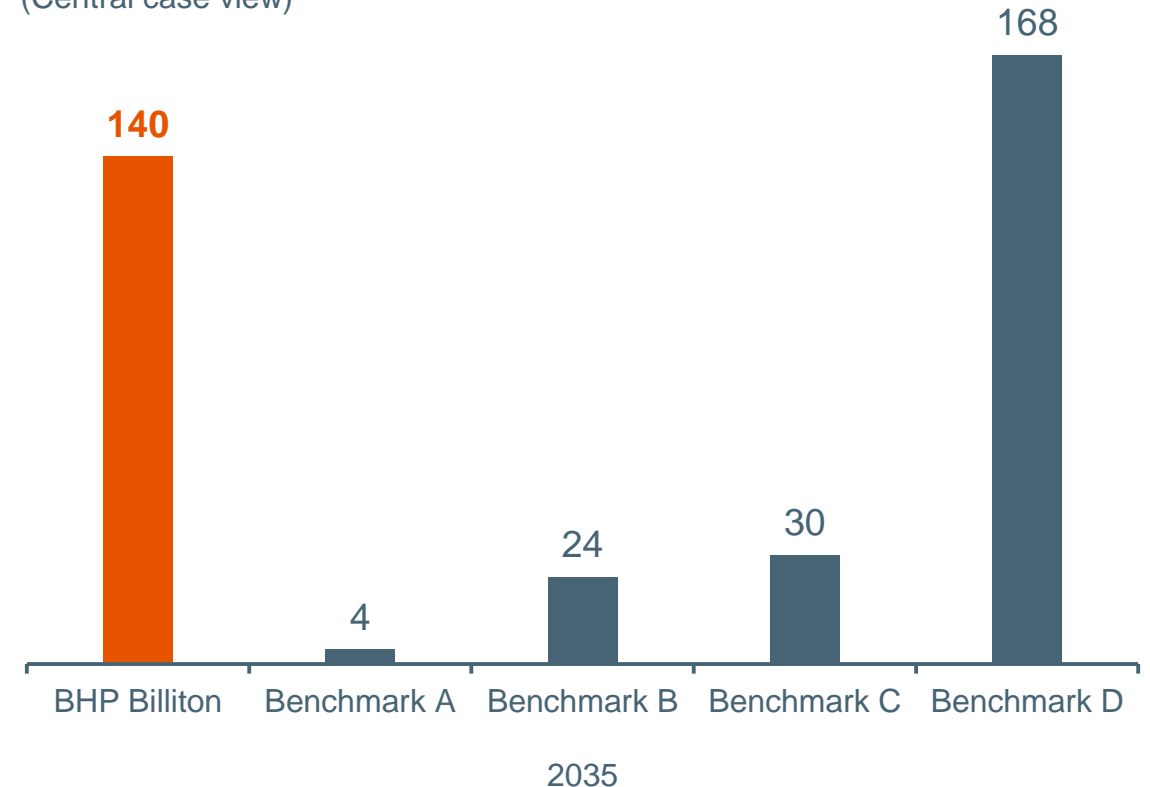
# EVs: the Central case view

## Electric vehicles

- The Tesla Model 3 received 276,000 orders in the first three days, demonstrating strong consumer interest in EVs.
- Battery technology continued to improve while costs declined, suggesting that in the longer term EVs will be cost competitive with internal combustion engines and this technology may ultimately be applied at a larger scale.

## Fleet of electric vehicles in 2035 (million vehicles)<sup>1</sup>

(Central case view)

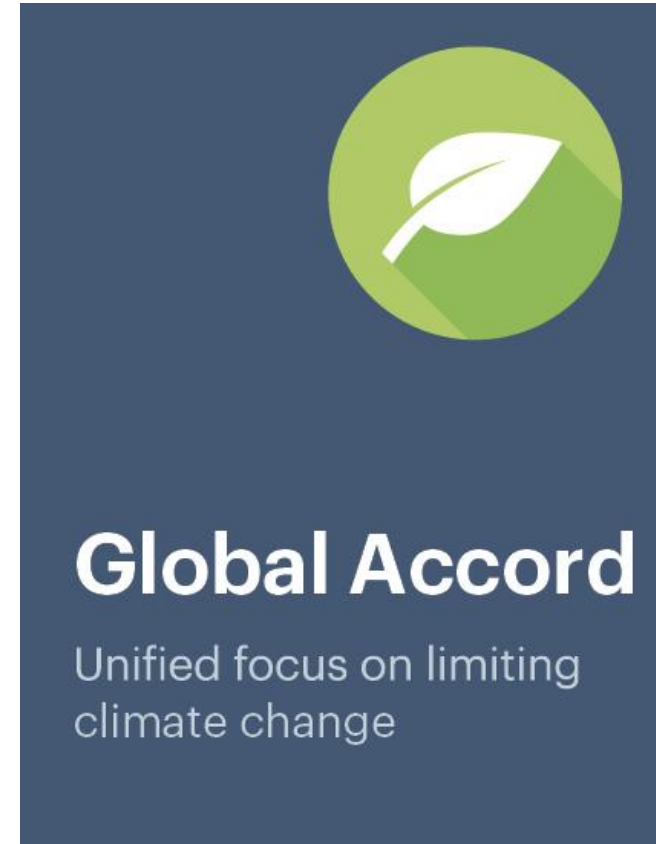


1. Benchmarks are industry analysts. Benchmark D only includes passenger vehicles. It is important to note that the figures presented here are only battery electric vehicles and do not include plug-in hybrids – we consider these as part of the internal combustion engine fleet.

# Global Accord

## Global Accord describes:

- Robust global economic growth.
- Unified action to address climate change – high cooperation and commitment to limit emissions.
- Breakthroughs in low emission and renewable technologies.
- There is an orderly transition to a 2°C world.



# Retesting our portfolio

- The commodities in our portfolio, including oil, natural gas and thermal coal, have strong future margins given our high-quality, low-cost assets.
- We continue to regularly consider the attractiveness and potential addition of new commodities to the portfolio.
- We have the flexibility to test and adjust our portfolio, such as buying and selling assets.
- We continue to be well-placed to manage the transition to a 2°C outcome.



# Our actions

## We are committed to taking action on climate change by:

- Reducing our emissions.
- Building the resilience of our operations, communities and ecosystems to the impacts of climate change.
- Working in partnership to accelerate the development and deployment of low emissions and renewable technologies.
- Working with others to enhance the global response.





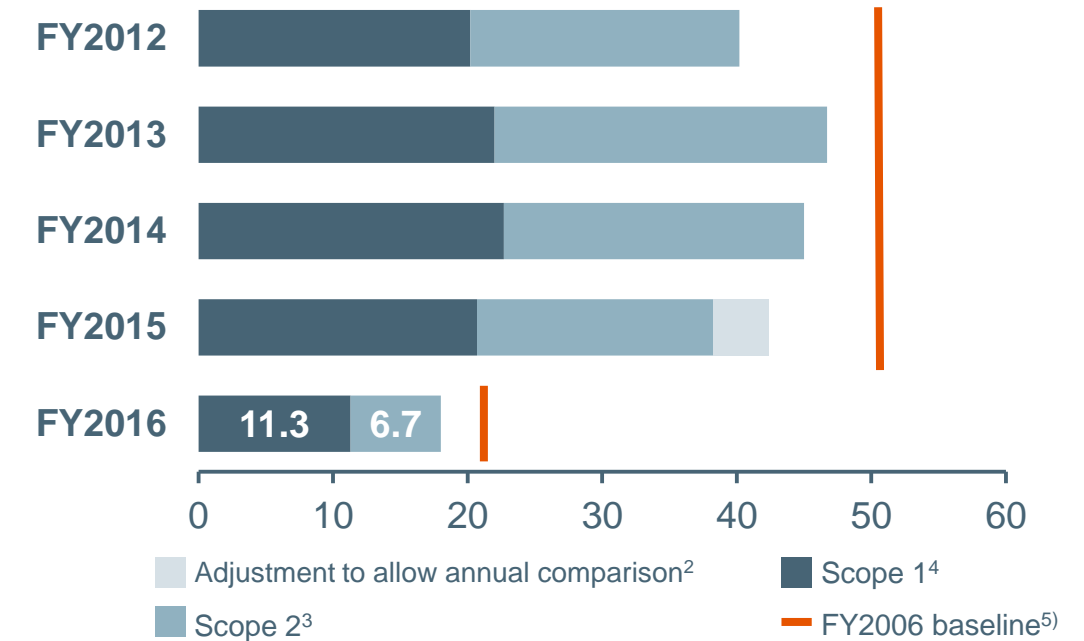
# Our actions

## Reducing our operational GHG emissions

- Our target is to keep total operational GHG emissions below our FY2006 baseline in FY2017.
- In FY2016, the Company's total GHG emissions were 18 MtCO<sub>2</sub>-e, 13 per cent lower than the baseline.
- Performance was in part driven by emissions reduction projects and improved productivity.
- Projects implemented since FY2013 have delivered more than 950,000 tCO<sub>2</sub>-e of annual abatement at our operations.

## Greenhouse gas emissions<sup>1</sup>

(million tonnes of CO<sub>2</sub>-e)



1. Measured according to the World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol.

2. In order to compare the total GHG emissions in FY2015 to prior financial years, GHG emissions (estimated) from South32 assets between the date of demerger and 30 June 2015 have been added to FY2015 GHG emissions as shown above.

3. Scope 2 refers to indirect GHG emissions from the generation of purchased electricity and steam that is consumed by operated assets (calculated using the market-based method).

4. Scope 1 refers to direct GHG emissions from operated assets.

5. Our FY2006 baseline is adjusted as necessary for material acquisitions and divestments based on asset GHG emissions at the time of the applicable transaction.

# Our actions



## REDD+<sup>1,2</sup>

- US\$5 million commitment to Alto Mayo in Peru, managed by Conservation International and protecting around 182,000 hectares of globally-significant, threatened forests.



## Great Barrier Reef Foundation<sup>3</sup>

- A\$600,000 partnership to enable experts in reef science and management to develop a globally-applicable Reef Resilience Framework.



## Carbon capture and storage<sup>4</sup>

- Establishment of the BHP Billiton SaskPower International Knowledge Centre in Canada.
- US\$7 million contribution to a project with Peking University to address barriers to deployment of CCS for steelmaking in China.

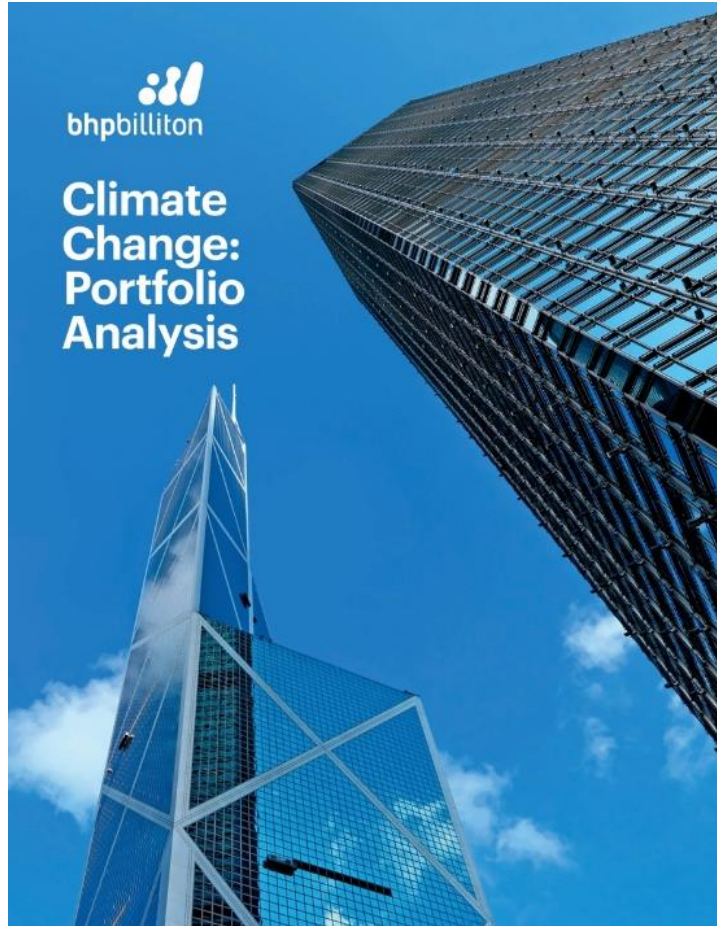


## Lakeland Solar and Storage<sup>5</sup>

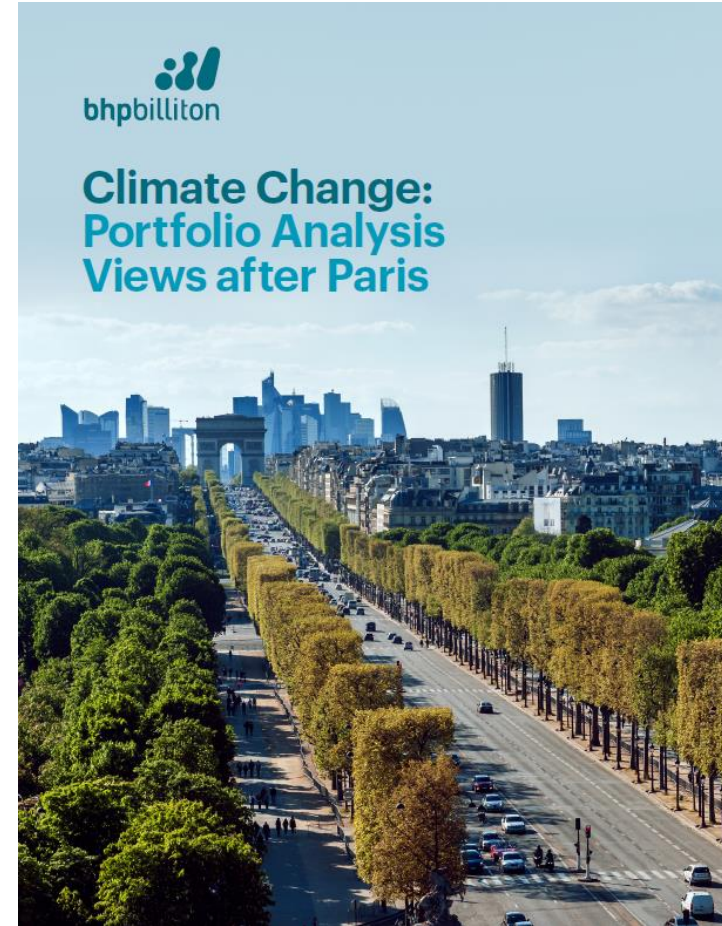
- A 13 megawatt solar photovoltaic power plant, incorporating 5.3 megawatt hours of lithium-ion battery storage, in a 'fringe of grid' location in Australia.

1. Reducing Emissions from Deforestation and Forest Degradation, as well as conservation, sustainable management of forests and enhancement of forest carbon stocks.  
2. Image supplied by Conservation International.  
3. Image by Gary Cranitch, Queensland University.  
4. Image supplied by SaskPower.  
5. Image published and supplied by Lakeland Solar & Storage Pty Ltd – A Conergy Group company.

# Conclusion



Views after Paris  
10 October 2016





**bhpbilliton**